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EXAMINER	
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ART UNIT	PAPER NUMBER
3679	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/580,718	DUBEDOUT ET AL.	
	Examiner	Art Unit	
	JAMES M. HEWITT	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/26/11*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 January 2011* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings were received on 1/12/11. These drawings are acceptable.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 37-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 37, stating "said first and second lips...are provided" is at least superfluous and it is unclear as to how such can replace "taken as a starting point" so as to convey the same meaning.

In claim 39, stating "wherein an expandable tubular joint is provided" is unclear in the context of the method claim and it is unclear as to how such can replace "taken as a starting point" so as to convey the same meaning.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-6, 23-27, 36-40 and 44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Metcalfe (WO 98/42947).

As to claim 1, Metcalfe discloses an expandable tubular joint comprising: a first tubular element (male tubular) including a first portion, provided with a male thread, and a second portion extending said first portion and comprising i) a first outer surface, ii) a first annular lip having a first axial abutment surface and a first inner surface and delimited by said first outer surface over a portion of the axial length thereof, and iii) a second abutment surface; and a second tubular element (female tubular) comprising i) a female thread, matching the male thread and screwed thereto, ii) a second annular lip having a third abutment surface resting against said second abutment surface, a second outer surface, arranged to face said first inner surface, and a second inner surface, iii) a fourth axial abutment surface, and iv) a third inner surface extending between said fourth axial abutment surface and said female thread and defining with said second outer surface and fourth abutment surface an annular recess configured to receive said first lip, wherein said second and third abutment surfaces are conical surfaces having substantially identical angles of inclination relative to a plane transverse to a longitudinal direction, selected so as to allow said second abutment surface to rest against said third abutment surface, generating a first radial and sealing interference contact of one of said first inner and outer surfaces of the first lip against said second outer surface or said third inner surface respectively, and such that, during a diametral expansion in a plastic deformation region subsequently carried out on the expandable

tubular joint, said first outer surface and said third inner surface are forced locally to define a second sealing interference contact.

As to claim 2, Metcalfe discloses a joint according to claim 1, wherein said conical surfaces of the second and third abutment surfaces are convex and concave respectively, so as to generate said first radial and sealing interference contact of the first inner surface against the second outer surface.

As to claim 4, Metcalfe discloses a joint according to claim 1, wherein said inclinations are initially between *approximately* +5° and *approximately* +30°.

As to claim 5, Metcalfe discloses a joint according to claim 1, wherein said first lip and said recess initially have shapes selected such that said first interference contact is not generated until said second abutment surface rests on said third abutment surface.

As to claim 6, Metcalfe discloses a joint according to claim 1, wherein said first abutment surface is arranged to be forced during screwing to rest against said fourth abutment surface so as to cause said first lip to be subjected to axial compression in an elastic deformation region.

As to claim 23, Metcalfe discloses a joint according to claim 1, wherein said male and female threads are selected from a group consisting of conical-type and cylindrical-type threads and are each formed over at least one tubular element portion.

As to claim 24, Metcalfe discloses a joint according to claim 1, wherein in that said first tubular element is provided with a first rounded outer surface.

As to claim 25, Metcalfe discloses a joint according to claim 1, wherein said second tubular element is associated with a substantially symmetrical female/female-

type connection sleeve and said first tubular element is associated with an end of a great length tube.

As to claim 26, Metcalfe discloses a joint according to claim 25, wherein said sleeve comprises a central portion extended on either side by two second tubular elements and initially provided over an outer surface with an annular zone having a reduced thickness selected such that the initial thickness of said sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of the tubes, at the ends of which are formed said first tubular elements, and the efficiency of the joint.

As to claim 27, Metcalfe discloses an joint according to claim 2, wherein said first and second lips initially have shapes selected such that said first abutment surface rests on said fourth abutment surface before said second abutment surface is pressed onto said third abutment surface.

As to claim 36, Metcalfe discloses a method for producing a sealed tubular expanded joint comprising a first tubular element (male tubular) comprising a first portion, provided with a male thread, and a second portion extending said first portion and comprising i) a first outer surface, ii) a first annular lip having a first axial abutment surface and a first inner surface and delimited by said first outer surface over a portion of the axial length thereof, and iii) a second abutment surface; and a second tubular element (female tubular) comprising i) a female thread, matching the male thread and screwed thereto, ii) a second annular lip having a third abutment surface resting against said second abutment surface, a second outer surface, arranged to face said first inner

surface, and a second inner surface, iii) a fourth axial abutment surface, and iv) a third inner surface extending between said fourth axial abutment surface and said female thread and defining with said second outer surface and fourth abutment surface an annular recess configured to receive said first lip, wherein said second and third abutment surfaces are conical surfaces having substantially identical angles of inclination relative to a plane transverse to a longitudinal direction, selected so as to allow said second abutment surface to rest against said third abutment surface, generating a first radial and sealing interference contact of one of said first inner and outer surfaces of the first lip against said second outer surface or said third inner surface respectively, the method comprising: screwing said first and second tubular elements until said first lip is accommodated in said annular recess and said second abutment surface rests against said third abutment surface so as radially to tighten, in a sealed manner by forming a first radial and sealing interference contact, one of said first inner and outer surfaces of the first lip against said second outer surface or said third inner surface respectively, and subjecting said expandable tubular joint, by means of an axially displaceable expansion tool, to a diametral expansion in a plastic deformation region, so as to force said first outer surface and said third inner surface locally to define a second sealing interference contact.

As to claim 37, Metcalfe discloses a method according to claim 36, wherein said first and second lips having shapes selected such that said first interference contact is established between said first inner surface and second outer surface are taken as a

starting point and in that said first interference contact is not established until said second abutment surface rests on said third abutment surface.

As to claim 38, Metcalfe discloses a method according to claim 37, wherein said screwing firstly forces said first abutment surface to be pressed against said fourth abutment surface so as to cause said first lip to be subjected to axial compression in an elastic deformation region.

As to claim 39, Metcalfe discloses a method according to claim 36, wherein an expandable tubular joint is taken as a starting point and in that said screwing forces first and second sealing forces surfaces to be radially tightened against one another, generating first the third sealing interference contact then the first sealing interference contact, which comes to reinforce said third sealing interference contact.

As to claim 40, Metcalfe discloses a method according to claim 36, wherein said expansion generates a fourth sealing interference contact between a free end of the first inner surface and the second outer surface.

As to claim 44, Metcalfe discloses a joint according to claim 1, wherein, after said diametrical expansion, the joint is sealed with respect to fluid transmission between an interior and exterior of the joint.

As to claim 45, Metcalfe discloses a method according to claim 36, wherein, after said diametrical expansion, the joint is sealed with respect to fluid transmission between an interior and exterior of the joint.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 8-9, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe.

As to claim 3, Metcalfe fails to teach that the conical surfaces of the second and third abutment surfaces are concave and convex respectively. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Metcalfe such that the conical surfaces of the second and third abutment surfaces are concave and convex respectively, since it has been held that a mere reversal of essential working parts of a device involves only routine skill in the art.

As to claim 8, in Metcalfe, it is unclear as to whether said first inner surface of the first lip is initially inclined relative to said longitudinal direction by an angle between approximately 0.1 ° and 15°. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said first inner surface of the first lip is initially inclined relative to said longitudinal direction by an angle between approximately 0.1 ° and 15°.

As to claim 9, in Metcalfe, it is unclear as to whether the ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1 and approximately 3. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1 and approximately 3.

As to claim 41, it is unclear as to whether the joint is expanded at a rate of at least 10%. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Metcalfe such that the joint is expanded at a rate of at least 10%.

As to claim 43, in Metcalfe, it is unclear as to whether the ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1.2 and approximately 1.6. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art

at the time the invention was made to modify Verge et al such that said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1.2 and approximately 1.6.

Claims 7, 13-14, 28-35 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe in view of Banker et al (US 6,332,110 B1).

Metcalfe fails to teach the limitations related to the interface between the male and female tubulars in the region of the lip of the male member and corresponding annular recess on the female member and in the region of the lip of the female member and the recess of the male member. From Fig. 2, Banker et al teaches the limitations posited in claims 7, 13-14, 28-35 and 42, particularly tapered interfaces between the male lip and female recess and the female lip and male recess. Each tubular includes chamfers at their respective bore opening. It would have been obvious to one having ordinary skill in the art at the time the invention was made to taper Metcalfe's male and female lips and corresponding recesses as taught by Banker et al in order to enhance the stability and sealing of Metcalfe's joint.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe in view of Klementich (US 5,462,315).

Metcalfe does not disclose threads provided with a carrier flank having a negative angle of between approximately -3° and approximately -15° and a stabbing

flank having a positive angle of between approximately +10° and approximately +30°. Nevertheless, it is old and well known per se in the relevant art to use a carrier flank having a negative angle of between approximately -3° and approximately -15° and a stabbing flank having a positive angle of between approximately +10° and approximately +30°, as evidenced by Klementich '315 (see Figs. 6A-6D, illustrating that it is known in the art to select the claimed flank angles from among a finite set of known alternatives). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the threads of the of Metcalfe with flank angles such as those exemplified by Klementich '315.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe in view of Yamamoto et al (US 5,419,595).

Metcalfe does not disclose male and female threads arranged to have, after screwing and prior to expansion, an axial clearance between their stabbing flanks of between approximately 0.05 mm and approximately 0.3 mm. Nevertheless, it is old and well known per se in the relevant art to use an axial clearance between stabbing flanks, as evidenced by Yamamoto '095 (column 2, lines 23- 25, "dimensional tolerances for API standards allow a gap of from 0.03 to 0.19 mm between the stab flanks"). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the flanks of Verge et al with an axial clearance such as those taught by Yamamoto '095.

Claims 1-9, 13-14, 16-17, 23-27 and 36-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verge et al (WO 03/060370 A1) in view of Metcalfe et al (WO 98/42947).

With reference to U.S. Patent Publication US 2005/0172472 A1, which corresponds to WO 03/060370 A1:

As to claims 1, 4 and 36, with reference to FIG. 22 and 23, Verge et al disclose an expandable tubular joint, comprising: a first tubular element (1) comprising a first part, provided with a male thread, and a second part extending said first part and comprising i) a first outer surface, ii) a first annular lip (13) having a first axial abutment surface (as at 24) and a first inner surface and delimited by said first outer surface over a part of the axial length thereof, and iii) a second abutment surface, and a second tubular element (2) comprising i) a female thread, matching the male thread and screwed thereto, ii) a second annular lip having a third abutment surface, a second outer surface, arranged to face said first inner surface, and a second inner surface, iii) a fourth axial abutment surface (as at 24), and iv) a third inner surface extending between said fourth axial abutment surface and said female thread and defining with said second outer surface and said fourth abutment surface an annular recess corresponding to said first lip. Verge et al fail to teach that said second and third abutment surfaces initially have convex and concave conical surfaces respectively having substantially identical inclinations relative to a plane transverse to the longitudinal direction so as to allow a sealing interference contact between said first inner surface and said second outer

surface after said screwing and prior to said expansion, wherein said inclinations are initially between approximately +5° and approximately +30°. Metcalfe et al teach a similar lipped pipe connector, wherein cooperating abutment surfaces (on the inner lips) initially have convex and concave conical surfaces respectively having substantially identical inclinations relative to a plane transverse to the longitudinal direction so as to allow a sealing interference contact between said first inner surface and said second outer surface after said screwing and prior to said expansion, wherein said inclinations are initially between approximately +5° and approximately +30°. As should be understood such inclinations provide more surface contact area and thus promote better sealing contact and stability for the joint. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said second and third abutment surfaces initially have convex and concave conical surfaces respectively having substantially identical inclinations relative to a plane transverse to the longitudinal direction so as to allow a sealing interference contact between said first inner surface and said second outer surface after said screwing and prior to said expansion, wherein said inclinations are initially between approximately +5° and approximately +30°, in order to promote better sealing contact and stability for the joint.

As to claim 2, Verge/Metcalfe discloses a joint according to claim 1, wherein said conical surfaces of the second and third abutment surfaces are convex and concave respectively, so as to generate said first radial and sealing interference contact of the first inner surface against the second outer surface.

As to claim 3, Metcalfe fails to teach that the conical surfaces of the second and third abutment surfaces are concave and convex respectively. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Metcalfe such that the conical surfaces of the second and third abutment surfaces are concave and convex respectively, since it has been held that a mere reversal of essential working parts of a device involves only routine skill in the art.

As to claim 5, Verge/Metcalfe discloses a joint according to claim 1, wherein said first lip and said recess initially have shapes selected such that said first interference contact is not generated until said second abutment surface rests on said third abutment surface.

As to claim 6, Verge/Metcalfe discloses a joint according to claim 1, wherein said first abutment surface is arranged to be forced during screwing to rest against said fourth abutment surface so as to cause said first lip to be subjected to axial compression in an elastic deformation region.

As to claim 8, in Verge/Metcalfe, it is unclear as to whether said first inner surface of the first lip is initially inclined relative to said longitudinal direction by an angle between approximately 0.1 ° and 15°. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said first inner surface of the first lip is initially inclined relative to said longitudinal direction by an angle between approximately 0.1 ° and 15°.

As to claim 9, in Verge/Metcalfe, it is unclear as to whether the ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1 and approximately 3. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1 and approximately 3.

As to claim 13, Verge/Metcalfe discloses a joint according to claim 1, wherein said first tubular element initially has, in the region of its first outer surface and before its first portion, a conical chamfer defining a first local annular set-back toward the interior of the joint.

As to claim 14, in Verge/Metcalfe, it is unclear as to whether said chamfer has a substantially continuous slope relative to the longitudinal direction of between approximately 8° and 12°. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said chamfer has a substantially continuous slope relative to the longitudinal direction of between approximately 8° and 12°.

As to claim 16, Verge/Metcalfe discloses a joint according to claim 1, wherein said first tubular initially has in the region of its first portion, over its inner surface opposing said male thread, a conical neck in which is defined a second local annular set-back.

As to claim 17, in Verge/Metcalfe, it is unclear as to whether said neck initially increases substantially continuously at a slope relative to the longitudinal direction of between approximately 2° and 20°. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such said neck initially increases substantially continuously at a slope relative to the longitudinal direction of between approximately 2° and 20°.

As to claim 23, Verge/Metcalfe discloses a joint according to claim 1, wherein said male and female threads are selected from a group consisting of conical-type and cylindrical-type threads and are each formed over at least one tubular element portion.

As to claim 24, Verge/Metcalfe discloses a joint according to claim 1, wherein in that said first tubular element is provided with a first rounded outer surface.

As to claim 25-26, Verge et al disclose all of the limitations of claims 25-26, except that said second tubular element forms part of a substantially symmetrical female/female-type connection sleeve and said first tubular element forms part of an end of a great length tube; and said sleeve comprises a central portion extended on either side by two second tubular elements and initially provided, over an outer surface,

with an annular zone having a reduced thickness selected such that the initial thickness of said sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of the tubes, at the ends of which are formed said first tubular elements element, and the efficiency of the joint. Nevertheless, Metcalfe '947 teaches that it is known in the art to use second tubular elements to form two opposing ends of a female/female connection sleeve (page 8, line 14, "tubular connector," Fig. 2 #16), separated by a central portion (page 8, lines 17-18, "intermediate portion," Fig. 2 #22) initially provided, over an outer surface, with an annular zone having an initial reduced thickness (page 8, lines 26-28, "the connector end portions are upset, that is they include portions of greater wall thickness than the tubing and are of a greater diameter than the tubing," Fig. 2) selected such that the section of the sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint (the section of the sleeve in the region of zone 22 is at least equal to the critical section (minimum thickness) of the tubular elements, as described on page 8, lines 24-25, "the connector intermediate portion 22 is of substantially the same wall thickness as the tubing 24, 25," (alternatively, if the thickness of the annular lip 32 or 33 is the minimum thickness, the section of the sleeve at the zone of reduced thickness is clearly greater than this critical section), also see the discussion of "the product of the section of a common portion of said tubes and the efficiency of the joint" in paragraph 12 above). Therefore, it would have been obvious to one of ordinary skill in the art to provide the second tubular elements or Verge in the conventional form of two opposing ends of a female/female

connection sleeve (which is generally disclosed by Verge in paragraph 2, as discussed above), such as that exemplified by Metcalfe '947. Further, it would have been obvious to provide the connection sleeve with an annular zone having an initial reduced thickness selected such that the section of the sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint, as taught by Metcalfe '947, so that "the connector 16 and the tubing lengths 24, 25 will expand in corresponding and predictable manner, minimising the occurrence of irregularities in the internal diameter of the expanded tubing string." Metcalfe '947, page 10, lines 8-11.

As to claim 27, Metcalfe discloses an joint according to claim 2, wherein said first and second lips initially have shapes selected such that said first abutment surface rests on said fourth abutment surface before said second abutment surface is pressed onto said third abutment surface.

As to claim 37, Verge/Metcalfe discloses a method according to claim 36, wherein said first and second lips having shapes selected such that said first interference contact is established between said first inner surface and second outer surface are taken as a starting point and in that said first interference contact is not established until said second abutment surface rests on said third abutment surface.

As to claim 38, Verge/Metcalfe discloses a method according to claim 37, wherein said screwing firstly forces said first abutment surface to be pressed against said fourth abutment surface so as to cause said first lip to be subjected to axial compression in an elastic deformation region.

As to claim 39, Verge/Metcalfe discloses a method according to claim 36, wherein an expandable tubular joint is taken as a starting point and in that said screwing forces first and second sealing forces surfaces to be radially tightened against one another, generating first the third sealing interference contact then the first sealing interference contact, which comes to reinforce said third sealing interference contact.

As to claim 40, Verge/Metcalfe discloses a method according to claim 36, wherein said expansion generates a fourth sealing interference contact between a free end of the first inner surface and the second outer surface.

As to claim 41, it is unclear as to whether the joint is expanded at a rate of at least 10%. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Metcalfe such that the joint is expanded at a rate of at least 10%.

As to claim 42, in Verge/Metcalfe, it is unclear as to whether the second outer surface of the second lip initially has, in the region of its connection to said third abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of approximately 10°. Nevertheless, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge/Metcalfe such that the second outer surface of the second lip

initially has, in the region of its connection to said third abutment surface, an annular portion inclined relative to said longitudinal direction by an angle of approximately 10°.

As to claim 43, in Verge/Metcalfe, it is unclear as to whether the ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1.2 and approximately 1.6. Nevertheless, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Verge et al such that said second tubular element initially has a ratio between an extension of said second lip in the longitudinal direction and an extension of said recess in the transverse direction of between approximately 1.2 and approximately 1.6.

As to claim 44, Verge/Metcalfe discloses a joint according to claim 1, wherein, after said diametrical expansion, the joint is sealed with respect to fluid transmission between an interior and exterior of the joint.

As to claim 45, Verge/Metcalfe discloses a method according to claim 36, wherein, after said diametrical expansion, the joint is sealed with respect to fluid transmission between an interior and exterior of the joint.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verge/Metcalfe in view of Klementich (US 5,462,315).

Verge/Metcalfe does not disclose threads provided with a carrier flank having a negative angle of between approximately -3° and approximately -15° and a stabbing flank having a positive angle of between approximately +10° and approximately +30°. Nevertheless, it is old and well known per se in the relevant art to use a carrier flank having a negative angle of between approximately -3° and approximately -15° and a stabbing flank having a positive angle of between approximately +10° and approximately +30°, as evidenced by Klementich '315 (see Figs. 6A-6D, illustrating that it is known in the art to select the claimed flank angles from among a finite set of known alternatives). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the threads Verge/Metcalfe with flank angles such as those exemplified by Klementich '315.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verge/Metcalfe in view of Yamamoto et al (US 5,419,595).

Verge/Metcalfe does not disclose male and female threads arranged to have, after screwing and prior to expansion, an axial clearance between their stabbing flanks of between approximately 0.05 mm and approximately 0.3 mm. Nevertheless, it is old and well known per se in the relevant art to use an axial clearance between stabbing flanks, as evidenced by Yamamoto '095 (column 2, lines 23- 25, "dimensional tolerances for API standards allow a gap of from 0.03 to 0.19 mm between the stab flanks"). Thus, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to provide the flanks of Verge/Metcalfe with an axial clearance such as those taught by Yamamoto '095.

Response to Arguments

Applicant's arguments filed 1/12/11 have been fully considered but they are not persuasive.

Applicant argues that Metcalfe doesn't teach the limitation "...generating a first radial and sealing interference contact of one of said first inner and outer surfaces of the first lip against said second outer surface or said third inner surface respectively". Examiner disagrees. As shown in Fig. 2, the surfaces of the inner (or outer) lip and the receiving groove are interference fit; too, the abutting surfaces form metal-to-metal contact seals. And as Metcalfe is surely concerned with establishing a fluid tight joint (such that there is no leakage), it should be understood that the lips/recesses are in interfering and sealing contact. Applicant asserts that the angled surfaces in Fig. 2 are not abutting surfaces. It is unclear as to how these surfaces cannot be construed as abutting surfaces. They are shown to be in abutment, and further, in interfering and sealing contact. And Applicant has not assigned a strict definition to "abutment surface" to preclude Metcalfe's surfaces from being reasonably interpreted as "abutment surfaces". And it is unclear as to how the angle of a contact surface would preclude such a surface from being in abutment.

Metcalfe's invention is drawn to a tubing joint in a wellbore which passes oil. In such joints, for many reasons, it is vital to not have any leakage. Therefore,

manufacturing tolerances for such joints are very strict, and sealing is very important. As is made clear by Metcalfe's drawing and disclosure and as is clear to the skilled artisan, the contact surfaces of the tubing sections are in close interfering contact, and also form a metal-to-metal sealing contact so that there is no leakage at the joint.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. HEWITT whose telephone number is (571)272-7084. The examiner can normally be reached on M-F, 930am-600pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James M Hewitt/
Primary Examiner, Art Unit 3679